

## RESEARCH REPORT DOCUMENTATION PAGE

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| 5. Title and Subtitle<br><br>Base Reinforcement Using Geogrid   |   | 6. Report Type<br><i>Click on link to open report</i>   | 7. Project No.   |
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| 12. Performing Organization Name and Address<br>NDDOT M+R <input checked="" type="checkbox"/> North Dakota DOT<br>NDDOT OTHER* <input type="checkbox"/> Materials and Research Division<br>NDSU <input type="checkbox"/> 300 Airport Road<br>UND <input type="checkbox"/> Bismarck ND 58504-6005<br>UGPTI <input type="checkbox"/><br>OTHER* <input type="checkbox"/><br>*see supplementary notes   |   | 13. Sponsoring Agency Name and Address<br><br>North Dakota DOT<br>Materials and Research Division<br>300 Airport Road<br>Bismarck ND 58504-6005 |  |
| 14. Supplementary Notes   |   |   |  |
| 15. Abstract<br><b>Purpose and Need</b><br>North Dakota's aging highways are being rehabilitated with thicker base sections to improve pavement performance. These bases are being constructed with virgin aggregates and blends of recycled materials to provide adequate drainage and support for the pavement. Most of the aggregate used is a local material that is being depleted and is becoming harder to find. The North Dakota Department of Transportation (NDDOT) is looking at ways to improve the performance of the pavement, decrease future maintenance costs, conserve aggregate resources, and reduce the time needed to rehabilitate the roadway<br><br><b>Objective</b><br>The objective of this study is to determine if using Geogrid as a base reinforcement will provide the performance characteristics required, while reducing aggregate use and construction time.<br><br><b>Scope</b><br>The experimental feature is on project NH-4-052(044)058 which is located on US Highway 52 from Donnybrook to Carpio. Three different sections were designed and are as follows: <b>Section 1</b> (Control) -Length ½ mile, Sta 3260+44 to Sta 3286+84; <b>Section 2</b> - Length ½ mile, Sta 3286+84 to Sta 3313+24; <b>Section 3</b> - Length ½ mile, Sta 3313+24 to Sta 3339+64. The evaluation period is 10 years or until failure. Every two years the experimental feature will be evaluated and a report generated. The performance of each section will be monitored and evaluated for the following:<br><ul style="list-style-type: none"> <li>➤ Distresses (e.g., cracks, rutting, etc.) in the different sections.</li> <li>➤ Overall pavement condition.</li> <li>➤ Maintenance costs.</li> <li>➤ FWD Comparisons (after construction and on a biannual basis). The FWD testing will be conducted in the early fall to coincide with the completion of the project.</li> <li>➤ Performance of each section. Performance of each section will be judged on the number of distresses, overall pavement condition, maintenance costs, and FWD data.</li> </ul> |   |   |  |
| 16. Key Words<br><br>Base Reinforcement<br>Geogrid  | 17. Distribution Statement<br>No restrictions. This document is available to the public from:<br><br><b>North Dakota Department of Transportation<br/>Materials and Research Division:<br/>300 Airport Road<br/>Bismarck ND 58504-6005<br/>Office: (701) 328-6900 Fax: (701) 328 --0310</b> |   | 18. No. of Pages<br>46<br><br>19. File type/Size<br>PDF / 1.4 MB |